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Vol. XXXVIII No. 4

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ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

APRIL, 1917

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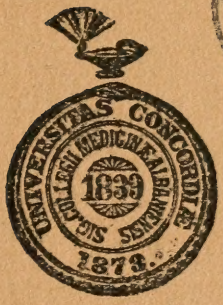

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ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the Albany Medical College

ALUMNI COMMITTEE

A. VANDER VEER, M. D. W. G. TUCKER, M. D. ANDREW MACFARLANE, M. D.

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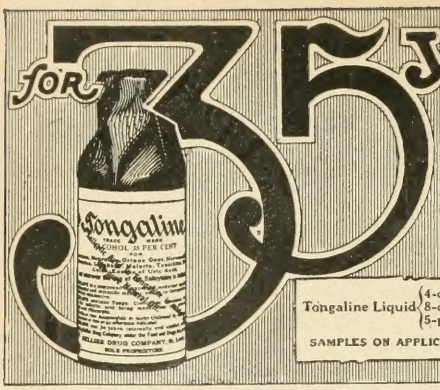

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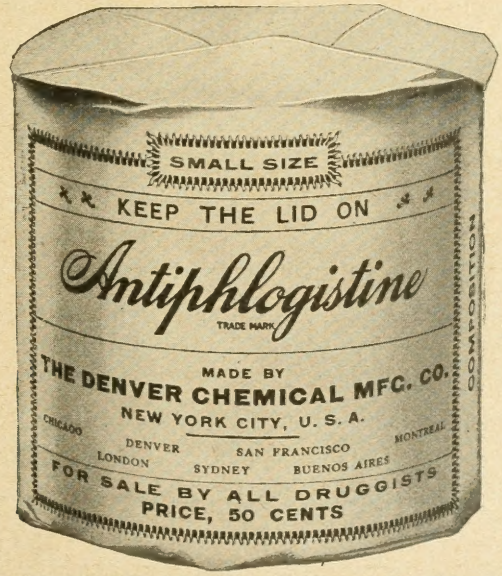

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THE RECOVERY FROM TYPHOID.—In spite of the improvements in general sanitation, typhoid fever still continues to exist, and is especially prevalent during the fall and early winter months. It is more than probable that most cases occurring in the larger cities are the results of infections contracted at the summer vacation resorts, where the water and food supplies are not as carefully safeguarded as in urban communities. Although many forms of treatment, designed to abort or cut short the disease, have been advocated from time to time, it is indeed doubtful whether such regulation of the infection has ever been accomplished. As the average course of Typhoid is from four to six weeks, it is scarcely to be wondered at that the patient usually emerges from the attack in a generally devitalized condition. This is accounted for not only by the general toxemia incident to the bacillary infection, but also because the practically exclusive milk diet generally adopted deprives the patient of the natural food iron which ordinarily maintains the ferric sufficiency of the blood. Some degree of anemia is therefore almost always in evidence when convalescence is first established. The quickest and safest way to overcome this blood deficiency and to hasten revitalization and a return to the normal, is to give Pepto-Mangan (Gude) regularly and in full dosage. This thoroughly agreeable and acceptable hematic tonic is particularly serviceable in typhoid convalescence, because it does not irritate or disturb the digestion, nor induce constipation.

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VOL. XXXVIII APRIL, 1917 No. 4

ALBANY MEDICAL ANNALS

Original Communications

A DISCUSSION OF THE DELETERIOUS EFFECTS OF COMPETITIVE ATHLETICS.

Read at the Meeting of the Medical Society of the County of Albany February 20, 1917.

BY GEORGE BLUMER, M. D.,
New Haven, Ct.

INTRODUCTION.

From time to time it seems necessary to remind the public and to call the attention of even the medical profession to the fact emphasized by Clement Dukes "that the virtue of games is for the well-being of players and not for the entertainment of spectators." This is a point of view often overlooked in these days when almost every high school in the land, not to mention the colleges, has its athletic teams and its training system. There has been a tendency in recent years to allow athletics to degenerate into athleticism, which may be defined as intemperance in genuine physical exercise. While no one is probably better acquainted with the beneficial effects of properly regulated exercise than the medical profession, no one on the other hand is more apt to see the ill effects of unrestricted competitive athletics. As a result there have appeared from time to time in medical literature reports from physicians pointing out the evil effects of athleticism from the physical point of view. It is a regrettable fact that many of these reports have been based upon faulty methods of observation and inadequate data, and this,

together with the fact that new methods of physical examination are from time to time discovered and that improvements on the old methods are constantly being made, makes it worth while to reconsider the question periodically, and to attempt to reach valid conclusions as to the extent to which athletic sports are harmful, as to the means by which abuses may be regulated, and as to the needs in the way of new methods that must be developed to fill the gaps in our knowledge of the subject. It must not be forgotten that while the average trainer of athletic teams has usually only one end in view, namely the winning of games, the medical profession in its relation to athletics has a duty both to the State and to the individual.

A discussion of the harmful effects of athletics may approach the subject from several angles. Perhaps the simplest and clearest method is to correlate the evidence which has been brought forward by different observers as indicating harmful effects, to review critically the observations and the methods which were used in obtaining them, and to draw conclusions as to the validity or falsity of the different claims. The published information can be assembled either from the point of view of the different sports, or from the point of view of the effect of various sports upon the different organs of the body. The latter method is perhaps the simpler, inasmuch as the effects of different sports on the circulation, on the kidneys, on the nervous system and on the general health are very similar, and the facts noted can be taken up systematically and later analyzed.

Athletics and the Circulatory System

The most extensive literature on the pathological effects of athletics refers to the changes which may result in the circulation. Leaving aside observations on temporary changes in the blood pressure, one finds in the literature a great many references to "heart strain," and "athlete's heart." In a general way one may summarize the pathological effects which are claimed to result under four headings:

1. Reports of rupture of a valve leaflet during violent exertion.

2. Reports of acute dilatation of the heart following unusually strenuous physical exercise.

3. Reports of marked and more or less permanent enlargement of the heart in athletes.

4. Reports of heart disease occurring during the later years of life in individuals who have formerly been devotees of athletics.

Considering the effects of various athletic sports in relation to these various types of heart strain or disability, it may be stated first that non-competitive long distance walking, such as was undertaken by the celebrated pedestrian Weston, has not been shown to have any deleterious effect upon the circulation, though the opportunities for observation have been limited. The careful studies of Weston that were made by Austin Flint, Jr., in New York, and years later by Mahomed and B. W. Richardson in London, failed to show any deleterious effect on the circulatory organs. On the other hand Baldes, Heichelheim, and Metzger in their study of the contestants in a competitive twenty-mile walk claimed to have observed a decided decrease in the arterial tension associated with definite temporary dilatation of the heart in a considerable proportion of the contestants. The combination of forced marching with the carrying of heavy loads such as occurs in infantrymen during a hard campaign is an example of a still more strenuous form of walking, and has been shown to result at times in symptoms which were interpreted as those of acute dilatation of the heart, at times in the so-called irritable heart, and at times in permanent strain of the organ with enlargement and even definite changes in the valves, the latter condition being sometimes described as "soldier's heart."

The ill results that have been observed in runners especially after long distance races, more particularly when these have been indulged in by growing boys, constitute in themselves quite a formidable indictment of unrestricted athletics. Burn-Murdock, as a result of circulars sent to the masters and medical officers of British public schools received a considerable number of reports indicating that long distance races among young boys, unless very carefully supervised not infrequently resulted in serious

and permanent damage to the heart, and had in a few cases even resulted in death. The ill effects noted are in a general way described as cardiac overstrain and in many instances no very accurate statements as to the physical signs accompanying this condition are made. Clement Dukes cites cases where young boys indulged in long distance racing which resulted in some instances in persistent vomiting, coma, acute dilatation of the heart, and even death, which latter he regarded as due to poisoning from the toxins of fatigue. In a discussion of Dukes' communication stress was laid upon the importance of minor infections such as colds, in predisposing to heart strain, and emphasis was also placed upon the fact that in many instances such strains occurred in individuals who had entered into strenuous competitive events without proper training. Reports on college students relating instances of cardiac damage as the result of overstrenuous athletics are far from infrequent. Whitlocke states that acute dilatation of the heart is not uncommon and that it is evidenced by palpitation, breathlessness, giddiness, inability to sustain effort, cough, the development of enlargement of the heart to percussion, and the occurrence of a definite heart murmur along the margin of the sternum. Collier, with his large experience among college students, concurs with Whitlocke that dilatation of the right side of the heart is often seen as a temporary manifestation in athletes. Middleton reports a series of cardiac accidents, eight in number, occurring in one season among athletes in the University of Wisconsin, most of these taking the form of acute cardiac dilatation, (determined by percussion) in some instances associated with a painful enlargement of the liver due to acute congestion of that organ. Aside from acute dilatation of the heart as a result of sudden and great strain in runners, it is stated by a good many observers, Bardeen for example, that those strong enough to participate in the more strenuous forms of running develop a more or less permanent enlargement of the heart which may predispose to a subsequent acute dilatation. It is quite generally stated that in such cases the individual, especially if he subsequently adopts a sedentary career, is handicapped by the enlarged organ which is generally

assumed to be predisposed to degenerative changes and to render him more liable than usual to cardiac disease in later life.

The effect of bicycle riding upon the circulation was more widely discussed twenty years ago when the bicycle fad was at its height than it has been in recent years. At that time Herschell pointed out that cyclists either when riding alone or in company showed a tendency to overexert themselves. Even solitary riders frequently indulged in century runs or similar achievements covering a course of some particular length irrespective of their physical condition. As a result Herschell claims that he observed some cases of simple enlargement of the heart, some cases of acute dilatation which in one instance was fatal, occasional functional derangements of the heart in the form of palpitation, shortness of breath, heart irregularity or even symptoms of angina pectoris, and in a few instances actual development of the signs of valvular disease. It must be stated in connection with these observations that they were made in many instances not upon trained athletes, but upon the average individual who indulged in over-strenuous bicycle riding at the period above mentioned. These observations were confirmed by Huchard in France and Stengel in the United States. About the same time Eschele in an examination of a limited number of trained bicycle riders was unable to detect any change in the heart after a ride of forty-six kilometers (28.58 miles) accomplished in from 1½ to 1¾ hours. One of the riders in Eschele's series even had a compensated valvular lesion of the heart.

Rowing is perhaps par excellence the sport against which charges of producing cardiac disease have been made. The evidence obtainable in recent years is found in the work of Lee, of Lehrnbechter, and of Middleton. In all reports the number of oarsmen who were studied was limited, and in all instances the individuals were trained athletes under adequate supervision. Neither in the individuals studied by Lehrnbechter, who used the ordinary methods of percussion, nor in the case of the individuals studied by Lee, who used accurate x-ray observations, could any enlargement of the heart be detected. On the other hand, Middleton's observations of Wisconsin crew men, apparently

based on x-ray methods, showed that dilatation of the heart occurred in a number of instances either during or immediately following the training period.

The evidence that hypertrophy of the heart may result in individuals trained over long periods for various sports such as basket ball, baseball, football, running and rowing is to be found in the articles of Middleton and others and is based upon different methods by varying observers. The work on the lower animals done by Kulbs and Grober leads us to expect such a hypertrophy but it must be noted that not all observers are agreed as to its occurrence in man, nor as to the degree of enlargement likely to occur.

The record of the observations as to the effect of athletics on the heart is open to two criticisms. In the first place the methods that were employed in reaching some of the conclusions are decidedly open to objection, and in the second place it has not always been clearly demonstrated that those individuals who developed symptoms of cardiac disease had normal hearts before indulging in the exercise which produced the ill effects. In the matter of enlargement of the heart either from dilatation or from hypertrophy of the heart muscle, it must be pointed out that the older observers depended upon percussion to a large extent. In recent years the adoption of the x-ray in medical diagnosis has resulted in the introduction of several methods by means of which the size of the heart can be very much more accurately determined during life than was ever possible before. (x-Ray plate, orthodiagraph, fluoroscopy, teleroentgenography). It is only fair to state, however, that even these more modern methods are open to criticism unless they are used by experts and unless certain sources of fallacy are taken into account. An x-ray picture of the chest taken in the ordinary way gives a distorted image of the heart on account of the fact that the rays strike the chest obliquely. The accuracy of the picture is further complicated by the fact that the heart varies in size during systole and diastole and it also varies according to the position of the diaphragm. It has been demonstrated by the careful work of Williamson, Holmes and others that making the exposure of the chest with the x-ray at a stated distance,

approximately six feet from the chest, eliminates most of these defects. The method known as orthodiagraphy, in which by an ingenious device the heart is mapped out by the aid of a fluorescent screen, while much more accurate than ordinary methods of percussion, also has certain limitations, and is only of value when used by experts. It is clear, however, that the older reports in which slight degrees of enlargement of the heart were recorded as the result of percussion are absolutely valueless, and that even reports based on x-ray pictures taken in the ordinary manner have much less value than was formerly supposed. They are not, however, entirely without value because the error is known and can be allowed for. It is very important to bear in mind that the proportion of the observations that has been made by the more accurate methods is comparatively small. In spite of these inaccuracies, it is nevertheless perfectly clear that as the result of athletics very definite cardiac changes may take place. There are other observations besides those on the side of the heart which must be taken into account, and which can not be explained on any other basis than the presence of some cardiac abnormality. The symptoms presented by many of the victims of overexercise are distinctly more than the symptoms of exhaustion. They point distinctly to the circulatory apparatus, and in addition it is to be noted that definite heart murmurs and even an enlarged and tender congested liver may occur.

The question as to whether the individuals who suffer from heart disturbances as a result of athletic contests and in whom permanent ill effects persist, had normal hearts before entering on their athletic career, is one much more difficult to answer. It is a question indeed whether it is possible to answer it at all with our present knowledge. A perusal of the literature of the cardiac ill effects of athletics makes it clear that those who are most likely to suffer from them are school boys, college men who have perhaps overindulged in athletics during their schoolboy days, and former athletes or other untrained persons who have attempted strenuous athletic feats without proper preparatory training. It is necessary to point out that even in those institutions where the contestants in competitive athletics are most carefully supervised, the decision as to the circulatory

capacity of the individual is still based almost entirely upon what may be called anatomical rather than physiological criteria. If the heart is not enlarged and the sounds are normal it is taken for granted that the organ is not diseased. It can not be denied, I think, that we have not yet worked out satisfactory tests for the functional capacity of the heart. There have been numerous atempts to formulate such tests and these have been more or less satisfactory. (Graüpner, Barringer.) In addition to this it must be stated that it is certainly not infrequent for a heart damaged by some infectious disease to show no sign of this on ordinary physical examination, and yet at the first severe strain the weakness immediately becomes evident.

Athletics and the Kidneys

That strenuous exercise produces some effect upon the kidneys has long been known. As long ago as 1878 Leube showed that soldiers, especially after long marches during the summer months, showed albumin in the urine. Between 11 and 12 per cent. of the individuals examined by him showed this albuminuria, which Leube stated was not accompanied by the presence of blood or casts in the urine, and which disappeared after a few hours' rest. Similar observations on soldiers have been made since, and it has been stated by Brunton that the experience of the German army has been that such individuals are less resistant and less able to stand hard work, especially in the tropics than those not reacting to exercise in this way. In 1894, McFarlane called attention to similar phenomena in football players. He found that of twenty players whose urine was examined immediately after the game, all showed marked albuminuria, and it was accompanied by the presence of a few casts and in several instances of blood. Since these earlier observations numerous reports have shown that this phenomenon is not restricted to any particular type of exercise. Collier states that 51 per cent. of 156 men in training showed albuminuria after strenuous exercise, particularly oarsmen and long distance runners. Johannes Müller showed that the same was true of bicycle riders and Baldes, Heichelheim, and Metzger showed that competitive long distance

walking had the same effect. The outstanding feature of the phenomenon in all cases was the rapid disappearance of all evidences of renal disease within a few hours after the cessation of the exercise. The phenomenon is now a well recognized one and is commonly spoken of in literature as the albuminuria of exercise. The mechanism of its production is still a matter of conjecture. Whether it is associated with the increase in the blood pressure or other circulatory changes accompanying certain stages of exercise, or with the excretion of the toxins of fatigue through the kidneys is still a matter of pure conjecture. The important question of course is whether the frequent repetition of experiences of this sort such as must occur in athletes during a period of training is detrimental to the health of the individual. Opinions have been advanced to the effect that there is at any rate considerable likelihood that such a process will lead to permanent changes in the kidneys which, however, may not develop until many years after the individual retires from athletic contests. This matter will be discussed further in connection with the late effects of athletics.

Athletics and the Nervous System

As regards the effects of athletics on the nervous system, there is little evidence that permanent damage to the nervous system is likely to result aside from traumatic injuries which are not here considered. After strenuous exercise certain changes in the reflexes may be observed, and in individuals who are overtrained nervousness and even pronounced insomnia may result. There is, however, practically no evidence of any pronounced and serious permanent harm to the nervous system. It is a question whether the effects of athletics on scholarship should be discussed under this heading. The only serious attempt with which I am acquainted to estimate this effect is that made by Dr. D'Arcy Power in 1913. According to this observer there seems to be a considerable amount of substantial evidence to the effect that those men engaged in the more strenuous varieties of competitive athletics are unfavorably influenced so far as their mental work is concerned. Whether their mental lassitude is the result of mere physical overtire or of mere lack of inter-

est in their studies as compared with their athletics, or whether overstrenuous athletics produces definite changes in the central nervous system which are incompatible with mental concentration is open to question. It is, of course, well known that muscular fatigue has a distinct effect on brain activity. Dr. Power's paper is based upon answers to a questionnaire sent out to professors in various colleges and these answers are based upon general impressions rather than on scientifically conducted experiments.

Athletics and Health in Later Life.

One of the most important questions with regard to athletics is that of its ultimate effects on the individuals who take part. From time to time physicians have stated that they have been consulted by individuals, formerly athletic, who showed definite evidence that they did not compare favorably in their physical equipment with individuals from the same same social strata, who had not taken part in competitive sports. Thus Harlow Brooks states that his experience in examining applicants to a national guard regiment largely composed of ex-college men, has led him to the conclusion that former athletic stars are below the health standards of average college men both as to their physical possibilities and their resistance against disease. He states that the defects that he has observed chiefly are lesions or disturbances of the heart, adiposity, joint disease and tuberculosis. Dr. Brooks expresses the opinion that the physical degeneration of athletic specialists is much more rapid in after life than is the case in those whom he terms "untrained athletes," i. e., those who have exercised during youth for pleasure or for benefit alone without indulging in competitive athletics. Other observers could be cited who present a point of view essentially similar to this. In addition to such general observations there have been a number of statistical articles analyzing the mortality of oarsmen, runners and other athletes as contrasted with that of picked men who had not previously taken part in competitive athletics but who were comparable to the athletic group. Dr. Anderson's figures covering Yale athletes tend to show that there is not a greater death rate among athletes than among non-

athletes, that heart disease among athletes appears to be on the increase, but that this does not appear to be more true of the athletic group than it is of the general population. Among the older figures those of Morgan and Meylen dealing with oarsmen fail to show any increase in mortality from diseases of the heart or kidneys among this group of athletes. The report of Dr. Stokes, formerly surgeon-general of the United States Navy, on the other hand, in which he compares the records of 622 athletic with those of 580 non-athletic midshipmen, lead him to believe that there is an abnormal number of deaths among the athletes from arteriosclerosis, valvular disease of the heart, hypertrophy and dilatation of the heart, gastric disturbances, obesity, and tuberculosis. These figures have so impressed him that he advocates doing away with endurance contests at the Naval Academy and the adoption of the Swedish system of physical training, which indeed has already been put into effect.

It seems clear, therefore, that there is a decided difference of opinion as to the ultimate effects of indulgence in strenuous athletics, on the susceptibility of the individual to certain diseases, and his likelihood to die from them prematurely. On the one hand there are those who believe and who present figures which apparently show that athletic excesses are paid for in later life and particularly by the development of the so-called degenerative diseases, arteriosclerosis, degenerative heart disease, and chronic Bright's disease. Other evidence, which is equally convincing, tends to show that this is not the case. There is no question that great caution must be observed in the interpretation of such figures. It is pretty well understood that the so-called degenerative diseases are not dependent upon any single cause, but are probably caused by a very considerable number of interacting factors. There are certain aspects of athleticism which must not be lost sight of in this connection. During the period of training the athlete is under considerable restraint and is subjected in many instances to a most unscientific dietary. No institution has yet, so far as can be discovered from the literature, placed its training table in the charge of dietetic experts. The dietary of athletic teams is usually decided by rule of thumb, based on tradition, by the trainer. The diet

is generally one unusually rich in protein. The studies of Dr. Nichols of Boston clearly show that scientific knowledge of dietetics is non-existent among trainers. After the period of training, which in spite of its dietary fallacies involves considerable self-restraint, the athlete is very apt to react and indulge in excesses of various kinds, including excesses in baccho et venere. It is obvious that in any consideration of degenerative diseases occurring in the after life of former athletes, questions such as the drinking and smoking habits, and no less the eating habits, of the individual between training periods, and between the cessation of athletics and the time of death can not be ignored. It is a notorious fact that as a result of excesses resulting from temptations that are particularly prone to assail the athlete after the breaking of training, actual disease is not infrequently acquired. In several articles mention is made of the fact that syphilis, a notorious cause of degenerative disease, is not uncommon among ex-athletes. It must be clear therefore that it is exceedingly difficult if not indeed impossible in a given group of cases where the figures apparently show a relationship between athletics and the development of degenerative disease later in life to decide whether such disease is due to athletics or to one or more of the factors above mentioned connected with the life habits of the individual.

General Discussion.

The observations quoted in the body of this paper must, I think, make it clear to the unprejudiced observer that there are possibilities of harm in athletics and particularly in competitive athletics, and that this main fact is not by any means refuted by differences of opinion among various observers as to the validity of certain methods and conclusions. It is also clear that the possibilities for harm of the kind we have discussed are not inherent in the games themselves and that damage has most often occurred in the case of immature individuals and improperly trained individuals, those whose ambition outstrips their strength. The remedies are clearly indicated. Athletics should be as carefully supervised as scholarly pursuits. As has been pointed out by Jergersen daily medical supervision of

participants in major sports is a necessity, and no man should be permitted to indulge in any sport without medical advice. The exercise should be fitted to the man and not the man to the exercise. Certain information now lacking is needed. As Bartsch has suggested we need a sort of sport scale whereby the risks attached to the various forms of athletic contest can be gauged with reasonable accuracy. Such a scale could well be prepared by the physical directors of college athletics, who are in the best position to furnish the data. We need most urgently from the medical side to develop accurate methods of determining cardiac function. We need most of all, so far as the colleges are concerned, a much expanded system of student medical supervision, much greater cooperation between trainers and medical experts, restriction of student control in athletics, the services of scientific dietitians in connection with our training tables, and the education of our alumni to a saner viewpoint as regards athletics and its aims. In our high schools we need these same conditions even more urgently than we need them in the colleges, for in the high schools we are dealing with students who are less resistant to injury, and in these institutions the necessary safeguards have not yet reached the stage of development which they have reached in the better colleges. I cannot in conclusion refrain from condemning the present tendencies in athletics whereby the development of the few in competitive athletics is carried out at the expense of the many who, in the words of Dr. Stokes, "Stagnate on the side lines." Physical exercise in the form best suited to the individual student should be just as compulsory in schools and colleges as stated periods of study. We should still heed the oft-quoted remarks of Cotton Mather, "Let this be remembered, moderate abstinence and convenient exercise, and some guard against injurious changes in the weather, with a holy and easy mind, will go as far in carrying us with undecayed garments through the wildness to the promised and pleasant land which we are bound unto as all the prescriptions which all the physicians under Heaven have ever yet obliged us."

FEEBLE-MINDEDNESS: TECHNICAL AND LEGAL.

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The publicity given the subject of feeble-mindedness has stimulated study in this direction to such an extent that eight States have enacted laws creating boards or commissions to examine this group of mental defectives with the purpose in view of ultimately eliminating propagation of this species. Impetus is given to the movement by independent workers; and by allied organizations which come in frequent contact with such defectives in our courts, in our penal and in our charitable institutions. In fact the economic side is one which the legislature finds to be no mean problem, involving as it does a burden of taxation, if all requests are met, which to say the least would be oppressive.

The study of feeble-mindedness, offers the opportunity to determine questions vital to the individual and to society, and is now in its infancy. It presents legal aspects as well as medical, but in all probability the near future will develop the fact that the profession of medicine must accomplish the task of creating the line which is yet to be drawn between responsibility and irresponsibility.

Intense interest has been created by the application of the Mendelian laws to the human family. Mendel, an Austrian monk, devoted to horticulture, discovered in plant propagation certain laws which are necessarily invariable. He found if tall and dwarf peas were crossed, that the first generation were all tall. This latter product yielded three tall and one dwarf. Further cultivation showed that the dwarfs produced all dwarfs; and the three tall peas of this group on continued cultivation yielded plants one-third of which always produced tall plants; the remaining two-thirds continued to yield three talls to one dwarf. The same phenomena were observed when peas which had a green pod were crossed with one having a yellow pod; and when round peas were crossed with wrinkled. Hence we have the famous ratio of three to one.

As a result of these experiments we have designated terms, as "unit character," "dominant" and "recessive," familiarly employed as well in the analysis of human traits. Thus, tallness is a unit character; it is dominant in the first generation; and the character dwarfness is recessive not showing here but reappearing in the second generation.

Mendel published his observations about fifty years ago, but it was not until about 1900 that even an analogy was suspected to exist between the laws governing the inherited characteristics of the vegetable and the animal kingdoms. At this latter time the discovery was made of the apparent relationship existing in these laws as applied to the physical and mental attributes of different generations of the same family. In fact the laws in many instances, especially as applying to physical characteristics, were unquestionably established as being legitimately applicable to both plant and animal life. This scientific knowledge is utilized to a great extent in cattle breeding, with very satisfactory results—results which confirm absolutely that we are dealing with more than a similitude.

As applied to intelligence, or partial lack of it as found in varying degrees of feeble-mindedness, a great difficulty confronting us is the uncertainty as to whether feeble-mindedness is a unit character. It is generally accepted, but not finally proved, that toxic conditions cause feeble-mindedness. The possibility exists that these extraneous influences accentuate rather than act as the causative factors.

The term "feeble-mindedness" is used at times in two senses. Generically it includes the group of idiots, imbeciles and morons; specifically it is synonymous with the word "moron." This conflict entails ambiguity, especially where we find most of the auditors have little or no intimate knowledge of the subject.

The prevalent impression is that lately there has been a great increase in numbers among these defectives. Since Binet and Simon developed a series of intelligence tests, first used in testing the mentality of the school children in Paris, it was discovered that there are more morons or feeble-minded than hitherto had been recognized. It is variously estimated that New York State with its population of 10,000,000 has need of institutions cap-

able of housing 30,000. A commission appointed to investigate the subject estimates that there are 250,000 feeble-minded in our State. If these tests were universally applied it might be shown, using the tests as a basis, that the percentage instead of being two and a half was nearer ten.

The movement to care for these unfortunates is gaining momentum and yearly we see the legislature besieged for appropriations that are tremendous when totaled. Much of the hysteria could be eliminated if laws were enacted which fully protected the rights of the individual. It is a well known fact that commitments to institutions require in most instances little more than the certificate of one physician. However, in 1914, a law was passed (Chap. 361, Section 461) much stronger than any heretofore existing. It does not supersede laws already found on the statute books, and reads as follows:

> It shall be the duty of a judge of a court of record, on application of a parent, guardian, friend or relative, or of any poor law official, or of any probation or parole officer, or of any superintendent or principal of schools to set a date for a hearing for the determination of the mental status of any alleged feeble-minded person. Due notice shall be given to parties at interest as to the hearing, the date thereof, and full opportunity shall be given for a presentation of evidence concerning the mental status of the alleged feeble-minded person. When it shall appear to the satisfaction of the court that the individual named in the application is feeble-minded and that it is for the best interests of the individual and of the community that he be committed to a public institution for the feeble-minded, the judge may commit such feeble-minded person to such institution, using such form of commitment as shall be prescribed by the state board of charities, and such person shall be detained therein until duly discharged by direction of the board of managers thereof.
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> Every application for commitment shall be accompanied by the certificate of two medical practitioners, certifying that the person to whom the application relates has been examined by each of them as to his mental capacity and that in their opinion the person is feeble-minded.

A careful perusal of this law will show that the safeguards protecting the rights of the individual are not as strong as those found in the insanity laws. According to the latter, application must be made to a Supreme or County Court Judge for the appointment of a commission (medical) to examine the alleged insane person. In the law pertaining to the alleged feeble-

minded person such application must be accompanied by a certificate signed by two physicians. It so happens that each is entitled to a hearing, but provision is made that the alleged insane person may have a jury trial. Almost without exception the alleged insane person has relatives of sufficient means to guarantee justice even were the law less stringent. With the alleged feeble-minded person, often without friends and always without funds to secure counsel, in the event of error the danger of loss of liberty is enhanced.

Before making any recommendations to change the commitment laws it may not be out of place to ask, "What constitutes Feeble-mindedness?" Excluding idiots and imbeciles whose mental condition is evident, and using the word feeble-minded in the specific sense, a feeble-minded person is, "One who is capable of earning his living under favorable circumstances, but is incapable from mental defects existing from birth or from an early age (*a*) of competing on equal terms with his normal fellows, or (*b*) of managing himself and his affairs with ordinary prudence." This definition is by the Royal College of Physicians of England, and is accepted as standard or authoritative. It can readily be seen how it happens, with this definition as a working basis, that the increase in the number of feeble-minded is constant. Furthermore, knowing as we do that most of the work done in this field is carried on by an extremely high class of women, and admitting as a medical problem that this subject has been practically ignored, it becomes at once apparent that the element of personal equation enters materially in determining whether the individual under investigation is "capable of managing himself and his affairs with ordinary prudence."

As far as concerns the idiots and imbecile it is affirmatively settled that they are mental defectives from birth or shortly after. Their mentality is so far below par that as workers they could not as a rule prove self-supporting and are entitled to live as public charges.

Although the foregoing definition as to what constitutes feeble-mindedness is plain and workable in the case of the adult, given a chance to show his worth as affecting his relationship to society, when applied to the child it is usually supplemented with

intelligence tests and family history. A child measuring by the Binét-Simon test two or more years below his actual age is adjudged feeble-minded. The family history is often unsatisfactory as offering conclusive evidence that the progenitors were hereditary defectives. Environment is undoubtedly a factor which often decides a man's value. That which is condoned in one age or one place becomes a pronounced symptom of feeble-mindedness in another; and the symptoms are identical with every human frailty. Hearsay evidence is the main reliance in judgment formation when the family history antedates two generations. It is unnecessary to discuss its authenticity or the part played by disease and training in shaping the family destiny. Heredity is the predominating and most likely the controlling influence in determining an individual's position in the community—a fact of common knowledge and widely known before eugenics assumed the pretense of a science. It will take time equivalent to the production of five more generations, with active and systematic research, before human breeding will approach approximately the nature of a science. Its present indefiniteness possibly accounts for the failure of the great majority actively engaged in this field to marry and procreate.

It is unanimously averred that there is no numerical increase among idiots and imbeciles out of proportion to the natural increase in population. This acknowledgment is in itself sufficient food for thought. These lower divisions were from time immemorial universally recognized as incompetents incapable of being other than a burden to their friends or society.

Mental tests for intelligence combined with the general formula as to what constitutes feeble-mindedness opened a comparatively wide field for investigations of individuals, their families, and their ancestors. The result is absolutely negative because the data compiled is insufficient to more than indicate possibilities; but one positive conclusion is evident, and that is the appreciable and recognizable augmentation of the morons or feeble minded. Whether those measuring ten years or more are to be considered as a local liability or a national asset is a problem as yet awaiting solution. Assuming that they are a menace, this highest grade division necessarily requires segregation. But the gen-

eral application of the tests has been so limited that we may question the assumption.

The difficulty is that too much enthusiasm has been created such as we always find associated with new problems. As a general proposition it is unfair and unjust to both the State and the individual to deprive the latter of his liberty when he is intelligent enough to prove self-supporting. Making him a dependent on a grand scale increases taxation to a point where the ultimate taxpayer, the rentpayer, sometimes becomes as a consequence a partial object of charity. Poverty is usually ascribed to sickness and death if we listen to the insurance companies. Prohibitionists argue as strongly as to alcoholic indulgence. Reformers attribute it to gambling and disease incident to the social evil. But our charity workers monopolize the field by including all as incidental to feeble-mindedness. They favor segregation as the means to prevent procreation; and in our institutions today and awaiting commitment thereto, are many who if deprived of this power to procreate would cease to be a burden to the State.

That some effort should be made to distinguish between those who are technically from those who are legally feeble-minded is evident from this abstract of a court proceedings involving Habeas Corpus. The inmate, cited to appear, took the stand and underwent an examination by his lawyer: the Supreme Court Judge asked some questions and while the incarcerated individual was still on the stand he was discharged. Witnesses from the institution were not called, though present, which was surprising to the interested parties. No claim is made that institutional training develops or retards the growth of intelligence. Here we have a paradox; either this American-born citizen was originally deprived of his liberty through error, or the judge was very lax to put it mildly. Similar cases are never contested beyond this point, due to the fact that it is not worth while from the institutional viewpoint as they have such a large waiting list. And from the viewpoint of the inmate, invariably poverty stricken, counsel is unattainable and the cost of further proceedings is prohibitive. It must be remembered that many who are awaiting

incarceration in our institutions measure higher in intelligence than immigrants admitted daily to Ellis Island.

As a concrete example exhibiting methods used to arrive at a conclusion as to the mental status of the individual the field worker in a borderline case called in some of her friends and jointly they decided that it would be for the best interests of the party under consideration to be put in an institution. On our affirmation that it was necessary to have a physician's signature attached, we were informed that this was the easiest part of the program as physicians know so little of the subject. This illustration exemplifies the necessity of more stringent legal proceedings to guarantee the rights of the individual. In the extreme northern part of the State six children were begotten through incest, and the popular local opinion was that the woman was a victim of environment. Two reputable physicians denied with vigor that she was weakminded. No action of any kind ever resulted. Hypothetically considered by experts it was unanimously agreed that the pair responsible for the affair were feeble-minded. Such cases as these should have a jury settle the question of the mental status of the parties involved. It might be added that both parties to this sex perversion were financially able to procure counsel.

Attached to a few courts in this country are trained experts who measure by standard tests the mental capacity of offenders or violators of the law. This applies particularly to Chicago. Other cities are agitating the creation of similar activities, and there can be no doubt that eventually results will be attained which will more than offset the cost. It is commendable also in that it will broaden the field, will bring a more virile body of observers on the scene and intensify study among classes. We regret that the tests have not been more universally applied; if the measure of school children, advanced students, factory workers, artisans, etc., were known we could more approximately determine the relative value of such tests as indicating the future worth of the subject, and certify with some degree of exactness where responsibility begins. Thus will be eliminated much of the sentimentalism associated with criminal cases, and the punishment will fit not only the crime but the criminal. The idea prevails among workers in this field that

because feeble-mindedness is an incident of crime no responsibility exists is fallacious. To carry the theory to finality it can logically be proved that every criminal or delinquent is a limited defective and necessarily irresponsible. The extinction by segregation or sterilization of all such humans evincing animal instincts will mean a race or nation impossible to conjure.

Whether this aim is Utopian is immaterial. But the question presents itself and is bigger than one of finance, how best to preserve the rights of the individual and at the same time conserve the strength of the nation. We are not advocating segregation nor sterilization for every technical case of feeble-mindedness. With as yet the value of mental tests an unknown quantity except as they enable us to recognize greater numbers of what in former times were considered dullards, now called morons or feeble-minded, familiarly seen in the school room of the past and present, and with their place in the community unascertained, it behooves the legislature to proceed with caution.

It is true that a big movement will shortly be inaugurated making provision for institutional care of such high-grade defectives, regarded by so-called experts as a menace to society greater in proportion as they approach normal mentality. This latter opinion is based on the admitted fact that many of this class are malefactors, but in what proportion to the whole is simply a matter of conjecture. We know that a former secretary of the State Board of Charities testified there were 250,000 feeble-minded in New York State. It is given out unofficially that sixty per cent. of the prison population are feeble-minded, although we are aware that these figures are altogether speculative, and assuming that they are correct, the conclusion deduced is that less than ten per cent. of the whole are undesirable. Again it must be remembered that the feeble-minded are less capable of resisting suggestion or are more susceptible to influence than the normal man. Possibly, and in our opinion it is probably true that the lapses are due to this weakness, coupled with a lack of proper environment, rather than to an inherent tendency to crime.

It is generally accepted that criminality is not an hereditary defect. If so, and ninety per cent. of the feeble-minded are law abiding it would seem plausible to conclude that among the

offenders were many victims of environment. This class being as a rule capable of self-support, useful in performing certain necessary functions in the body politic, with our indefinite knowledge of their number or place, they should not be condemned as a whole. Through no fault of their own they were born, and are entitled to a place in the sun until proven a menace. Individually they should not be deprived of their liberty until subject to the strictest proceedings the law can invoke. It is unthinkable that error should arise in even one case. We are not hereby advocating sterilization, and we do not propose at this time to offer argument why in selected cases it has superior merit to segregation.

Under the old insanity laws much confusion existed before a differentiation was effected between the so-called medical and legal insanities. Eventually the present laws pertaining thereto superseded those already enacted and the danger of jeojardizing the liberty of the interested party was eliminated or minimized.

Already there is talk of commissions to investigate the problem of the proper disposition of the feeble-minded, and we hereby recommend as contributing to make its solution less difficult, and possibly obviating the necessity of the creation of the commission, the following:

(1st) Revoke all existing laws pertaining to the commitment of the feeble-minded.

(2nd) Enact a law requiring in high-grade cases (morons or feeble-minded), easily intelligent enough to prove self-supporting, that application be made to a County or Supreme Court Judge for appointment of a medical commission to conduct such examination; that the alleged feeble-minded person, at the hearing given, shall be represented by counsel, the latter to be appointed by the court. Medical and legal expenses should be paid by the county in which the proceedings are held.

(3rd) Require in the case of the low-grade defective, on proper application, the certificate of one physician.

Such changes will prove no panacea; they will instill common sense and justice in every proceeding involving the rights of the individual and the State; and will absolutely differentiate between technical and legal defectives. The whole will be a big step forward.

Clinical and Pathological Notes

Report of a Case of Lipoma of the Intestine. By Ellis Kellert, M. D.

(From the Bender Hygienic Laboratory)

Among the more unusual neoplasms of the intestine are the lipomata. These tumors may be encountered accidentally during post-mortem examination but more frequently are seen in cases developing intestinal obstruction.

In 1904, Ward reported a case in which a lipoma was passed per anum after a long period of constipation, gastric disturbance and abdominal pain. There is appended to the report a bibliography by Rooney bearing on intestinal lipomata, together with a brief summary of thirty-six cases previously reported. Of these cases, eighteen occurred in the small intestine, seven in the large intestine, one in the oesophagus, one in the stomach and the remainder unknown. In nine of the above cases the lipomata were expelled spontaneously, and in nine others, the tumors were found at autopsy. Sixteen occurred in males, ten in females; the sex of the other cases is not stated. The chief symptoms in a majority of these cases were abdominal pains and constipation, or those of intestinal obstruction.

Dewis in 1906 collected forty-four cases and tabulated them as follows: duodenum, 6; jejunum, 4; ileum, 7; caecum and colon, 5; sigmoid, 5; rectum, 6; small intestine, 2; intestinal, 1; unknown, 6.

The case here reported was a patient of Dr. Grant C. Madill of Ogdensburg, N. Y., who performed the operation and to whom I am indebted for the following clinical history:

Mr. J. C. was admitted to the Ogdensburg City Hospital November 3, 1914. Patient, 46 years old; good family history; never had any serious illness; no history of venereal disease. Has always been a healthy hard-working man. About six months previous to admission, suffered from cramp-like pains in the abdomen. His distress most marked in the epigastric region. Bowels sluggish, but relieved by mild laxatives. Patient lost about 20 pounds in weight during six months previous to operation. Urine normal. Tumor found on physical examination in the right side of the abdomen. Otherwise physical examination negative. Resection of caecum, ascending colon and portion of ileum with lateral anastomosis of ileum with transverse colon, November 4, 1914. Patient

made an uninterrupted recovery and was discharged November 21st in good condition.

Pathological description. (Bender Laboratory No. S-14-1815.) The specimen consists of a caecum with a portion of ileum and ascending colon attached. The specimen measures 14 x 10 x 4 cm. and has been

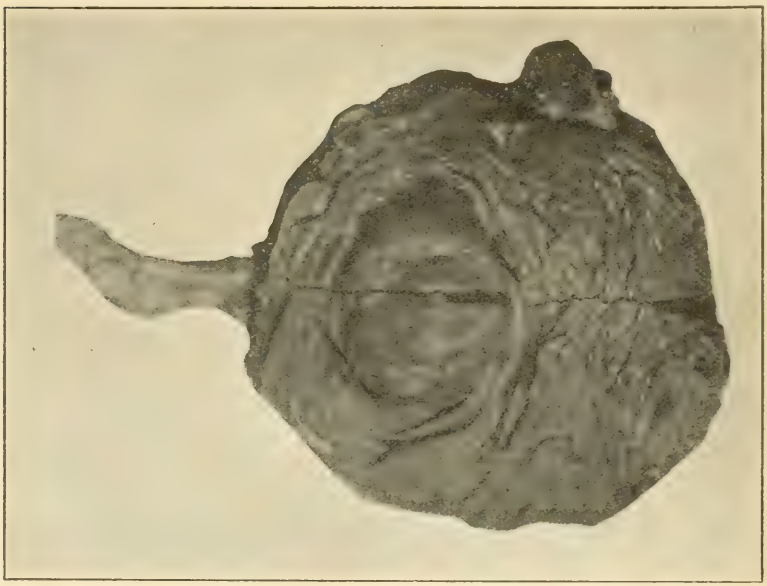

FIG. 1. Photograph of caecum showing tumor mass.

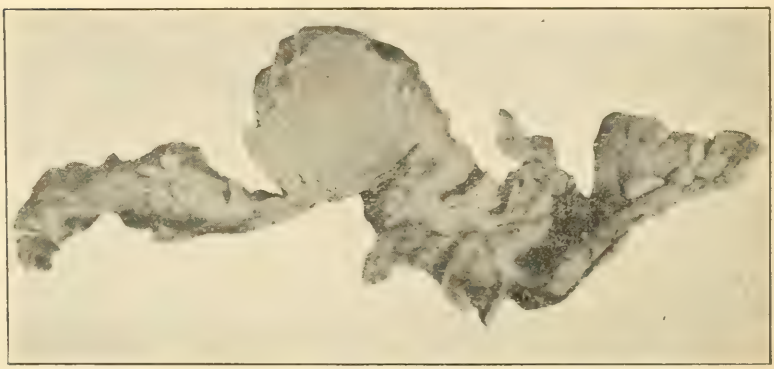

FIG. 2. Cross section of caecum showing submucous lipoma.

opened. The serosa is greatly roughened and injected. Within the wall of the caecum 3.8 cm. above the base of the appendix is a firm spherical mass 3 cm. in diameter. The overlying mucosa is greenish-red in color and presents a necrotic appearance. The mucosa surrounding the nodule is thickened, deeply injected and covered by an excessive amount of mucus.

On section the mass is seen to consist of bright yellow, lobulated fat-like tissue with sharply defined margins. It appears to have pushed the mucosa forward and produced marked thinning of the musculature, the tumor extending almost to the serosa. The appendix is 5 cm. in length and of small calibre.

Microscopic. The mucosa over the internal surface of the fatty mass is absent and replaced by a narrow band of granulation tissue 1 mm. in thickness which is markedly infiltrated with polynuclear neutrophiles, eosinophiles and lymphocytes; a few areas of fat cells are also present. The adjoining mucous membrane is also greatly infiltrated with eosinophiles. The surface is covered with a purulent exudate. The fat cells of the tumor are characteristic in appearance. There is an increased amount of fibrous tissue present and areas of lymphocytic infiltration.

Since 1906 there have been reported nineteen cases of intestinal lipomata distributed as follows: colon, 7; caecum, 4; small intestine, 8. In practically all of these cases the tumor was found at operation for intestinal obstruction. Intussusception was the condition usually present and occurred in the large and small intestine. The history invariably obtained is that of chronic constipation associated with vague abdominal pains or frequent attacks of severe pain, and finally symptoms of intestinal obstruction. The invagination often becomes very extensive before total obstruction ensues.

The above case is of interest because the clinical history and even the specimen strongly suggested malignant disease. The thickened walls of the caecum, the tumor mass with a necrotic surface resembled carcinoma and the true nature of the growth was not realized till a section was made.

Occasionally there are received in the laboratory, surgical specimens consisting of portions of the small or large intestine showing marked chronic inflammation, greatly thickened walls and a necrotic area of mucosa, the cause of which is not quite evident. It may be that in these cases a lipoma or some other form of benign tumor existed and had sloughed.

Panophthalmitis following Childbirth. By E. A. Stapleton, M. D., *Albany, N. Y.*

On June 12th, 1916, I saw in consultation with Dr. Lilienthal, a Mrs. Philmino V., Italian, aged twenty-one years, married. Twelve days previous, the patient had been delivered by a midwife. The child lived two days and then died of pneumonia. (?) Five days after the birth of the child, the patient's right eye became red and lacrimated, also very painful, and she said it grew worse until she was unable to use it.

Past History: No illnesses, except scarlet fever when nine years of age.

Examination of the right eye showed the eye-lid greatly swollen and eye very prominent. I was unable to examine the fundus because of a corneal haziness. I made a diagnosis of panophthalmitis, following an infected embolus from the uterus, secondary to pregnancy, and on June 15th, enucleated the right eye. Patient's temperature at the time of the enucleation was 101°, which subsided, and in the course of ten days was normal. Her legs were very edematous up to the knees for some time after the operation, especially noticeable when in a standing position, and this also disappeared after a couple of months.

White blood count, made June 19th, showed a slight increase —13,000. Urinary examination made on different occasions, negative. Blood culture yielded saprophytic organisms. The report from the Bender Laboratory on the eye was as follows:

"Detached retina, chronic scleritis, acute retinitis, acute and chronic choroiditis. Smears from eye show many pus cells, streptococci, debris. Cultures yield Staphylococcus pyogenes aureus and Staphylococcus pyogenes albus."

A culture taken from the discharge from the uterus showed pure streptococci.

This case is of interest, in view of the fact that there was panophthalmitis, secondary to an embolus set loose from the uterus, apparently passing through all vessels until it reached the small terminal vessels in the eye, involving no other organs.

Editorial

In the spring of this year there fell a very great sickness of the smallpox amongst the Indians, so as they died most miserably of it; for a sorer disease cannot come amongst them and they dread it more than the plague itself; for usually, those of them which have this disease, have them in abundance, and for want of bedding and linen, and other necessaries, fall into a lamentable condition; for, as they lie on their hard mats, the pock breaking and running one into another, their skin cleaving by reason thereof to the mats they lie on, when they twin them, much of their skin flays off at once, and they will be all on a gore of blood, most sad and grievous to behold; and then, being very sore, what with cold and other distempers, they die like rotten sheep.

Chronicles of the Pilgrim Fathers.

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School for Backward Children

The problem of the instruction of backward children has been met in Albany by the organization of a special class, known as the Albany Ungraded School, in which about seventy of these special class children are taught. The problem confronting the community in regard to these children has been described by the Board of Education in the following circular:

"In any typical school system, about two per cent. of the children will, according to our best standards of measurement, be found to be feeble-minded. Idiotic children are seldom found in school, although after the opening of special classes the most frequent petitioners are parents who beg to enter idiotic or low-grade imbecile children that have hitherto been kept at home. These cases are naturally the ones that lead parents to grasp at some agent of help, since the condition here strikes even the parent as unusual, whereas the higher grades of imbecility and moronity may be fully appreciated only by a trained or experienced observer.

"Ranking above these feeble-minded children comes a group roughly designated as 'backward,' and which for practical school purposes includes the borderline cases (until such are definitely

diagnosed as feeble-minded); the so-called backward-delinquents, excepting those who are feeble-minded; the psychopathic children, usually found in the delinquent group; and the mentally sound but slow children, including those who are below par physically, those who are struggling with a new language, and those to whom the methods and curriculum are poorly adapted. This backward squad constitute from 10 per cent. to 50 per cent. of the school population, perhaps being about 30 per cent. in the average city.

"Above this group ranks the great mass of average, normal school-children, constituting about forty per cent. to seventy per cent. of the membership of the system.

"At the top of the scale rank the four per cent. of children that compose the group of unusually able or "gifted" pupils.

"Expert examination of school-children shows about two per cent. are of such mental constitution that they can never profit by the work of the regular grades. These children, scattered through the regular classes, are either neglected or punished instead of being studied. They bring to us a part of the problem of truancy, incorrigibility and inability to learn or 'get along,' and are a tremendous drain upon the energies of the regular grade teacher. This type of child cannot be managed like other children, and he therefore requires special care and treatment under conditions suited to his abilities. A somewhat larger number of pupils, classed as backward, would profit greatly by having special class opportunities. Not only are the regular classes thus relieved from the bad example and drag exerted by these backward and feeble-minded children, but by the school's acceptance of its duty many of these children will be saved from a life of crime, trouble, and failure, and will be made happy and useful to the extent of their powers.

"The educational authorities of many cities are alive to the great need of the proper segregation and training of these cases, not only for their own welfare but for that of the normal pupils and of society at large. The training of such children is a specialty in education based upon a special psychology plus expert classification and study from a medico-psychological standpoint. To be able successfully to conduct a class of such

children, with the least waste of time and energy, the teacher must have special aptitude and training. Approximately sixteen per cent. of children in American cities are "repeaters" (pupils who spend more than one year in any one grade); and they cost $27,000,000 a year more to be passed along through the first eight grades of school as a result. Special classes will bring about much saving in dollars and cents in the case of many of these backward children. But there will be another saving that will result from such registration and study of the feeble-minded, borderline and psychopathic cases, in the increased protection to the community from the problem of juvenile delinquency and even grave crime."

Public Health

Edited by Arthur Sautter, M. D.

DEPARTMENT OF PUBLIC SAFETY, BUREAU OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, FEBRUARY, 1917.

COMPILED BY WILLIAM F. FULLGRAFF, REGISTRAR.

Deaths.

Consumption	15
Typhoid fever	0
Scarlet fever	0
Measles	4
Whooping cough	0
Diphtheria and croup	1
Grippe	9
Diarrheal diseases	0
Pneumonia	25
Broncho-pneumonia	8
Bright's disease	14
Apoplexy	10
Cancer	10
Accidents and violence	5
Deaths under one year	33
Deaths over 70 years	26
Death rate	22.10
Death rate less non-residents	19.15

Deaths in Institutions.

	Non-res.	Res.
Childs' Hospital	0	1
Federation of Labor Camp	1	0
Home of Friendless	1	0
Homeopathic Hospital	4	10
St. Peter's Hospital	3	5
Home for the Aged	2	2
Albany Hospital	10	18
Albany Hospital Camp	0	5
Albany County Hospital	1	1
Sacred Heart Convent	0	1
House of Good Shepherd	0	1
Hospital for Incurables	1	2
Maternity Hospital	1	10
Public Places	0	2
Totals	24	58
Births	179	
Still Births	9	

Bureau of Communicable Disease.

Cases Reported During February, 1917.

Typhoid fever	12
Scarlet fever	17
Diphtheria and croup	13
Chickenpox	44
Measles	13
Whooping-cough	2
Tuberculosis	42
Mumps	3
Septic sore throat	1
Dysentery-bacillary	2
Puerperal septicaemia	1
Trachoma	1
Anterior Poliomyelitis	1
Total	152

Number of days quarantine for scarlet fever:

Longest..... 30 Shortest..... 30 Average..... 30

Number of days quarantine for diphtheria:

Longest..... 31 Shortest..... 31 Average..... 31

Fumigations:

Houses..... 26 Rooms..... 127

Milk bottles disinfected..... 70

Communicable Disease in Relation to Schools.

	Reported		
	D.	S.F.	M.
Public School No. 1		3	..
Public School No. 7		1	..
Public School No. 12		1	..
Public School No. 24		2	..
Infant's Home	9		..
High School		1	..
N. Y. S. Normal College		1	..

TUBERCULOSIS.

Nurses' Report.

Living cases on record February 1, 1917		688
Cases reported:		
By card	39	
Dead cases by certificate	3	42
Total		730
Dead cases previously reported	12	
Dead cases not previously reported	3	
Removed	3	18
Living cases on record March 1, 1917		712
Total tuberculosis death certificates filed during Feb., 1917		15
Non-resident deaths:		
Albany Hospital Camp	2	
Resident deaths		13

Visits to Cases of Communicable Disease.

Tuberculosis	45
Poliomyelitis	2
Total	47
Physicians visited	13
Investigations	7

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	13
Initial negative	173
Release positive	23
Release negative	103
No growth	2
Total	314

Test of Sputum for Tuberculosis.

Positive	20
Negative	60
Total	80

Widal Tests.

Positive	16
Negative	13
Suspicious	10
Unsatisfactory	2
Total	41
Wassermann tests	156
Milk analyses	48

BUREAU OF NUISANCES.

Inspections		57
Plumbing	33	
Sanitary	24	
Reinspections		47
Plumbing	12	
Sanitary	35	

HEARINGS.

Cases heard before health officer	7
Class of cases:	
Plumbing	4
Filthy premises	2
Filthy lots	1
Disposition of cases:	
Abated	5
Ordered for reinspection	2

BUREAU OF PLUMBING, DRAINAGE AND VENTILATION.

Inspections		162
Old houses	41	
New houses	121	
Permits issued		26
Plumbing	22	
Building	4	
Plans submitted		12
Old buildings	10	
New buildings	2	

Houses tested		23
Blue or red	2	
Peppermint	2	
Water test	19	
Houses examined		28
Re-examined		54
Valid	15	
Without cause	13	
Violations		2

Dead Animal Report.

Horses removed	23
Dogs removed	144
Cats removed	173
Cows removed	1
Total	341

BUREAU OF MARKETS AND MILK.

Public market inspections	22
Market inspections	113
Fish market inspections	11
Packing house inspections	3
Rendering plant inspections	1
Hide house inspections	4
Milk depots inspected	7
Milk cans inspected	96
Lactometer readings	142
Temperature readings	142
Fat tests	75
Fat tests, cream	2
Sediment tests	42
Bacterial counts	34
Complaints investigated	1

MISCELLANEOUS.

Cards posted for communicable disease	30
Cards removed	4
Notices served on schools	152
Notices served on stores and factories	64
Postal card returns sent to doctors	30
Postal card returns received from doctors	4
Inspections and reinspections	38

Work certificates issued to children	8
Vaccinations	8
Cases assigned to health physicians	57
Calls made	112
Signs furnished to licensed plumbers	2

Garbage collected from 1st district	151 bbls.
Garbage collected from 2nd district	131 bbls.
Garbage collected from 3rd district	102 bbls.

Medical News

The Albany Guild for the Care of the Sick.—Report for the Month of February, 1917.—Number of new cases during month, 192. Classified as follows: Dispensary patients receiving home care, 1; district cases reported by health physicians, 2; charity cases reported by other physicians, 28; moderate income patients, 84; metropolitan patients, 77; old cases still under treatment, 45; total number of cases under nursing care during month, 237. Classification of diseases for the new cases: Medical, 52; surgical, 11; gynecological, 8; obstetrical under professional care, mothers, 49; infants, 48; eye and ear, 1; skin, 1; throat and nose, 0; dental, 2; infectious diseases in the medical list, 20; infectious diseases in the surgical list. Disposition: Removed to hospitals, 6; deaths, 5; discharged cured, 110; discharged improved, 37; discharged unimproved, 30; number of patients still remaining under care, 49.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; number of students in attendance, 3; number of nurses in attendance, 4; number of patients carried over from last month, 1; number of new patients during month, 7; number of patients discharged, 4; number of visits by head obstetrician, 0; number of visits by the attending obstetrician, 29; number of visits by students, 9; number of visits by nurses, 55; total number of visits for this department, 93.

Visits of Nurses (all departments).—Number of visits with nursing treatment, 1072; for professional supervision of convalescents, 380; total number of visits, 1452—p. p., 837; ch., 235; umec., 380; cases reported to the Guild by 1 health physician and 65 other physicians, graduate nurses, 4 pupil nurses, 5 on duty; certified nurses, 2.

Dispensary Report.—Number of clinics held, 84; number of new patients, 114; number of old patients, 433; total number of patients treated during month, 547. Classification of clinics held. Surgical, 11; nose and throat, 9; eye and ear, 17; skin and G. U., 6; medical, 13; prenatal, 3; lung, 5; dental, 0; nervous, 3; stomach, 4; children, 7; gynecological, 6.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—At a meeting held on March 13, 1917, Dr. W. E. Lawhead, surgeon of the local naval recruiting station delivered an address on the Naval Medical Reserve Corps which the government is organizing as a measure of preparedness.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The Seventy-third Annual Meeting of this Association will be held at the Hotel Astor, New York City, May 29, 30, 31, and June 1, 1917, under the presidency of Dr. Charles G. Wagner, superintendent of the New York State Hospital at Binghamton.

THE ANTI-TUBERCULOSIS CAMPAIGN.—The Westchester County Board of Supervisors has just appropriated $650,000 additional to the $300,000 made available last year for the new county general hospital. Approximately 500 beds will be provided, 200 of which will be for tuberculosis patients.

The hospital will be one of a group of county institutions that are being erected upon a 400-acre tract of land two miles northwest of White Plains and within a short distance of the Harlem and Putnam Divisions of the New York Central Lines. Tentative plans have been drawn and the hospital will be constructed under the direction of a building commission composed of three leading citizens of the county appointed by the Board of Supervisors. The hospital will come under the general supervision of V. Everit Macy, County Commissioner of Charities and Correction, who is widely known for his philanthropies and for his leadership in civic and social reforms.

The Montgomery County Board of Supervisors has recently voted to increase the capacity of the tuberculosis hospital from 25 to 50 beds, and a bond issue of $20,000 was passed unanimously at a special session called to consider the enlarging of the institution. Plans have been prepared and construction will be started as soon as the weather permits.

The proposed site for the Steuben County Hospital has been approved, after a public hearing, by the State and local health authorities. The property is a quarter of a mile north of the village of Bath on a State highway and close to the Bath-Hammondsport Railroad. The municipal water supply of Bath will be extended to the hospital. The sum of $30,000 was appropriated by referendum of the voters at the general election in November, 1915.

Sites for the Rensselaer, Warren, and Livingston County tuberculosis hospitals have been selected recently. These are the three counties in which referendums were had and carried at the general election last November. The site for the Rensselaer County Institution is on the outskirts of Troy within easy walking distance of one of the local trolley lines. The sum of $150,000 has been appropriated for the hospital.

The site for the Warren County Hospital, for which $50,000 has been made available, is between Glens Falls and Lake George, and readily accessible by State highway, interurban trolley, and the D. & H. Railroad.

The Livingston County Hospital, for which $35,000 has been appropriated, will be built on a beautiful site on the high banks of the Genesee River, just outside of Mount Morris, and within a mile from each of the depots of the three railroads traversing the county.

Thrty-three of the fifty-seven counties in the State, exclusive of those within the City of New York, have tuberculosis hospitals in operation or authorized by referendum or by affirmative action of public boards. These thirty-three counties contain 81.3 per cent. of the population of the State of New York, exclusive of New York City. The remaining twenty-four counties have no provision for tuberculosis patients authorized or available. There are twenty-seven hospitals in operation and twelve others authorized in the thirty-three counties. Already 1,799 beds are available, and 1,279 additional beds are authorized, or a total of 3,078 beds, as contrasted with 154 beds available in two hospitals when the State campaign against tuberculosis began in October, 1907.

New Tuberculosis Journal.—The publication of a monthly technical journal, devoted exclusively to tuberculosis, the only one of its kind in English, was announced today by the National Association for the Study and Prevention of Tuberculosis. The editorial policy of the new journal will be determined by a staff of seven experts appointed by the board of directors of the association, consisting of Dr. Edward R. Baldwin, Saranac Lake, editor-in-chief; Dr. Lawrason Brown, Saranac Lake; Dr. H. R. M. Landis, Philadelphia; Dr. Paul Lewis, Philadelphia; Dr. M. J. Rosenau, Boston; Dr. Henry Sewall, Denver; Dr. B. S. Veeder, St. Louis.

Dr. Allen K. Krause, of Baltimore, the managing editor, is widely known as a worker in the research field of tuberculosis. He recently left Saranac Lake to take charge of the new division of tuberculosis in Johns Hopkins' University.

The *American Review of Tuberculosis,* as the new publication is called, is the first technical journal on tuberculosis in this country. The intention of the National Association is to make it compare favorably with similar foreign journals.

Up to the present, the most important phase in the campaign against this disease has been popular education. Exhibits, lectures, and pamphlets, prepared in the most elementary terms, have for the past fifteen years brought home to the mass of the people clearly and definitely that this

dread disease, which annually takes a toll of 200,000 valuable human lives in this country alone, is preventable and curable in its early stages. These methods have pretty thoroughly dispelled the ancient idea that tuberculosis is hereditary; that once it is fastened upon a human being there is no hope. The campaign has thrown light into many a dark corner. It has instilled hope in many a breast where before there had been only despair. It has brought a new appreciation of the value of human life and the importance of disease prevention in all fields of health work. The campaign has been probably one of the most important factors in the new appreciation of the importance of preventive methods.

It is encouraging to realize that behind all of this emphasis on popular education there has been a most substantial basis of scientific research and the development of an important mass of special technique. Many, even the most thoughtful layman, however, will no doubt be surprised that the quieter side of the tuberculosis campaign has grown to such proportions that it demands for its proper expression a monthly publication, comparable in purpose to the many technical medical journals already in existence.

In its editorial announcement the Review says:

"It is only within the last five or ten years that our knowledge of the relations of infection to disease has taken definite form. Years ago an elect few had a glimpse into the probability that to be a civilized human being was to be tuberculous and that only a few of the myriads of the tuberculous ever developed tuberculosis. But at the time the facts were not at hand to warrant positive statement. Today they are. And if anyone doubts that we have learned much and have traveled a long way since 1905 let him read a work on tuberculosis of today and contrast the point of view with that held ten years ago. Or let him read the writings of Dr. Trudeau consecutively beginning about 1890 and ending in 1915. He will see how timidity of statement gradually hardens into positiveness and, here and there, evolves even into pregnant prediction as the hard won facts come in—all too slowly sometimes yet uninterruptedly."

The health forces of this country may find much encouragement in the results achieved by the anti-tuberculosis movement in the last ten years. In 1905 the death rate was 200.7 per 100,000 of population; in 1916 the rate was 146.8 per 100,000 of population. Stated in another way this means that if the death rate of 1905 had continued in 1916 there would have been 53,900 more deaths from tuberculosis in this country than actually occurred. Some of the reasons for this saving is found in the following facts: there were 500 more tuberculosis sanatoria and hospitals in 1916 than in 1905; 430 more clinics last year than in 1905; 1,370 more anti-tuberculosis associations and committees last year than

in 1905; there were approximately 800 open-air schools in 1916, whereas in 1905 there were none. There were 4,000 tuberculosis visiting nurses at work last year as compared with fifty in 1905.

Vacancies in Public Health Service.—According to a statement just issued by Surgeon General Rupert Blue, young medical men between the ages of 23 and 32 will be given an opportunity each month to demonstrate their fitness for admission to the grade of Assistant Surgeon in the United States Public Health Service. There are several vacancies in the government's mobile sanitary corps, which is now in the 119th year of its existence, but in order to be recommended to the President for commission, a physical and professional examination must first be passed. As the tenure of office is permanent and the Public Health officers are ordered to duty in all parts of the world, they are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. Boards will be convened at Washington, Boston, New York, Chicago, St. Louis, Louisville, New Orleans and San Francisco, but permission to take the examination must first be obtained from the Surgeon General. The examination is searching and includes, in addition to the various branches of medicine, surgery and hygiene, the subjects of the preliminary education, history, literature and the natural sciences. The commissions will be issued as Assistant Surgeon and after four years of service, the young officers are entitled to examination for promotion to the grade of Passed Assistant Surgeon, and after twelve years of service to another examination for promotion to the grade of Surgeon. The annual salaries are: Assistant Surgeon, $2,000; Passed Assistant Surgeon, $2,400; Surgeon, $3,000; Senior Surgeon, $3,500; Assistant Surgeon General, $4,000. When the government does not provide quarters, commutation at the rate of $30, $40, and $50 a month according to grade is allowed. All grades receive longevity pay, that is, 10% in addition to the regular salary for every five years until the maximum of 40% is reached. When officers travel on official duties they are reimbursed their actual traveling expenses.

Army Medical Corps' Examinations.—The Surgeon General of the Army announces that preliminary examinations for appointment of First Lieutenants in the Army Medical Corps will be held at convenient points the first Monday in each month. Full information concerning these examinations can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C."

The essential requirements to secure an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 32 years of age at the time of commission at the close of the Army Medical School, graduate of a medical school legally authorized to confer the degree of

Doctor of Medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as intern after graduation.

Graduate physicians who are serving their interneship and who meet the other requirements can be examined for appointment with the understanding that they will complete the required postgraduate hospital interneship before coming to the Army Medical School.

Those who qualify at their preliminary examination and complete their hospital interneship by July first will be ordered to the Army Medical School for the special session of the school commencing July ninth. The regular session of the school will open on October first.

In order to perfect all arrangements for the examination, applications should be completed at the earliest practicable date.

There are at present 230 vacancies in the Army Medical Corps.

After July first, there will be 222 additional vacancies.

National Board of Medical Examiners.—The second examination to be given by the National Board of Medical Examiners will be held in Washington, D. C., June 13, 1917. The examination will last about one week.

The following States will recognize the certificate of the National Board: Colorado, Delaware, Idaho, Iowa, Kentucky, Maryland, North Carolina, New Hampshire, North Dakota and Pennsylvania. Favorable legislation is now pending in twelve of the remaining States.

A successful applicant may enter the Reserve Corps of either the army or navy without further professional examination, if their examination papers are satisfactory to a Board of Examiners of these services.

The certificate of the National Board will be accepted as qualification for admittance into the Graduate School of the University of Minnesota, including the Mayo Foundation.

Application blanks and further information may be obtained from the Secretary, Dr. J. S. Rodman, 2106 Walnut Street, Philadelphia.

Campaign Against Unclean Dairy Utensils.—An active campaign against the unsterilized milk can, pail, strainer cloth, and separator, as contributing causes to high bacterial count in city milk, is to be carried on this season by the United States Department of Agriculture in cooperation with the health and milk officials of a number of cities. Already health officers in 150 localities have accepted the department's offer to demonstrate to their local milk producers a simple home-made sterilizer, costing not more than $15, which if used on the

farm will help guard the milk against this initial and serious contamination. How great a bearing sterilization on milk utensils on the farm has on the bacteral content of milk is shown by experiments which have proved that the average milk can, when washed in the ordinary way, may contain over eight billion bacteria, and that almost every milk can so treated harbors millions of bacteria which give a high bacterial count and hastens the souring of milk.

The home-made sterilizer for dairy utensils which is to be demonstrated uses steam as a sterilizing agent. All that is required to develop steam enough to sterilize the ordinary dairy utensils is a two-burner kerosene stove, and there is nothing about the device which calls for special skill in its effective use. The department has twenty of these sterilizers, described in Farmers' Bulletin 748, and has offered to supply an outfit for a two weeks' demonstration to any local health or dairy official who will agree to show it in operation to the milk producers in his section.

The effectiveness of this sterilizer has been fully proved both in the laboratory and on the farm. In one experiment ten gallons of fresh milk were divided into two parts. Five gallons, passed through a separator into a 5-gallon can, both utensils washed in the ordinary way, showed at the end of an hour 1,880,000 bacteria per cubic centimeter. The other five gallons, passed through a separator into a can, after both utensils had been washed and sterilized by means of the home-made sterilizer, showed only 24,000 bacteria per cubic centimeter.

The device, moreover, removes foul odors and leaves the utensils dry as well as sterilized. Experience shows that the bacterial count is thus materially reduced, while the producer finds that his milk does not sour so quickly and has an improved flavor.

The specialists of the Dairy Division are hopeful that the device, wherever it is demonstrated, will come into common use. It is believed that this sterilizer will find ready adoption among small dairymen because of its low cost of construction and operation, and because its use will tend to improve the quality and increase the keeping character of the milk.

PERSONAL.—ARTHUR F. HOLDING, M. D., (A. M. C. 1901), and SAMUEL BROWN, M. D., have collaborated with the publication of an article on the "Treatment of Hodgkins Disease," which appears in the Journal of the American Medical Association for March 3, 1917. An elaborate study of the literature and differential diagnosis and treatment is given, and the authors reach the following conclusions:

1. Microscopic examination of the tissues in all cases of enlarged nodes, especially in the neck, is to be recommended.

2. Attention should be called to the fact that cases of persistent idiopathic pruritus may be due to Hodgkin's disease.

3. The treatment of Hodgkin's disease is unsatisfactory. No efficient treatment is known. The treatment recommended is that in vogue for malignant tumors and occult infections. The results to be expected are temporary ameliorations.

4. Recoveries are rare. Of the thousands of patients treated there are only two authentic cases in which the patients are reported symptom free after five years.

5. The Roentgen ray and radium are the only new agents found beneficial in this disease, and should be used in treating it, at least after operation.

6. A Roentgen examination of the chest is indicated in all cases before an extensive surgical removal is considered. This will save many patients from a needless operation.

—Dr. Luther Emerick (A.M.C. '00), of Saugerties, N. Y., read the President's address of the Medical Society of the County of Ulster, at Kingston, N. Y., on the "Honor of the Profession," which is published in the New York State Journal of Medicine for March, 1917.

—Dr. Samuel H. B. Basch (A. M. C. '03), has removed from 311 East 86th Street, to 1190 Madison Avenue, New York City.

—Dr. Arthur Krida (A. M. C. '11), presented a paper upon "Health Insurance from the Public Health Viewpoint" before the Medical Society of the County of Schenectady at its February meeting, which is published in the March issue of the New York State Journal of Medicine.

—Dr. Harry V. Judge (A. M. C. '14), announces the opening of his office for the practice of ophthalmology at 140 Washington Avenue, Albany.

—The following named alumni of the Albany Medical College are announced to take part in the annual meeting of the Medical Society of the State of New York, to be held in Utica, N. Y., on April 24, 25 and 26: Albert Vander Veer, '62; Clement F. Theisen, '92; Charles Bernstein, '94; Henry L. K. Shaw, '96; Eugene E. Hinman, '99; Wardner D. Ayer, '10; Ward W. Millias, '12.

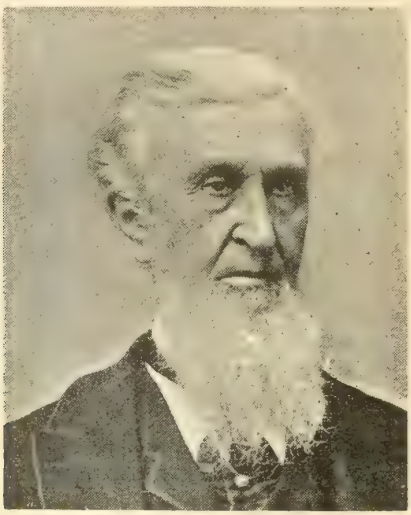
Died.—Dr. Aurora W. Giddings (A. M. C. '54), died at his home in Anoka, Minn., February 3, 1917, aged 86.

In Memoriam

Peter Schermerhorn Weidman, M. D.

The following memorial sketch was published by Dr. E. W. Fiegenbaum, in The Madison County Doctor of February, 1917:

Dr. Peter Schermerhorn Weidman, a man who for 41 years administered to the wants of the people in the eastern section of this county, was born in Schoharie Court House, New York, May 2, 1826. He gained his preliminary and classical education in the common schools and the academy of his native village, and at the age of twenty-four began the study of medicine under preceptors and at Ann Arbor. He took his last year at Albany Medical College, New York, from which he graduated in 1855.



After practicing in New York for two years, he came west and located at Marine, in March 1857, and immediately began an active business that was to last for many years. His was essentially a country practice, extending for many miles in all directions and either on horseback or in his high-wheeled sulky, he became a familiar figure in all the surrounding territory during the earlier years of his activity.

When he first came to Marine, he found five physicians already located there, and lived long enough to see twenty-five doctors come and go in that community during his professional career. He did a general practice and was a fair example of the type of "old family doctor," so general in that day and so unusual now.

He retired from active work in 1898, and after living in Marine two years more, moved to Edwardsville, and took up his residence in the

Leland Hotel, where he remained until March 1915, when he was taken to Jacksonville State Hospital. He died on January 2, 1917, aged ninety years and eight months.

Services were conducted from the Christian Church of Marine. The church was packed to capacity with the many old friends of the venerable physician, who came to pay their last respect to one who had lived as their neighbor for so long a time.

Interment was in the family lot at the Marine cemetery.

"The mossy marbles rest
On the lips that he has prest
In their bloom.
And the names he loved to hear
Have been carved for many a year
On the tomb."

DUNCAN S. ALLEN, M. D.

Dr. DUNCAN S. ALLEN, an alumnus of the Albany Medical College of the class of 1865, died at his home in Seneca, N. Y., December 23, 1916.

In the interesting history of the class of 1865, presented by Dr. Crothers upon the fiftieth anniversary of that class, the following appreciation and history of the career of Dr. Allen were given:

Dr. Duncan S. Allen, of Seneca, N. Y., was born in that place, and educated there. After graduating from the Albany Medical College in 1865, he opened an office in a frontier town in Michigan. Two years later he returned to Seneca, where he has continued in active practice up to the present. In 1870 he married. His wife died a few years later, leaving one child which is still living. In 1877 he was appointed health officer and in 1890 president of the board of pension examiners, and has been the leading physician in this section for over forty years, doing general practice and taking a very active part in all the duties and obligations of the community. He represents the best class of general practitioners whose work has been done with consistent energy and great satisfaction to himself and friends.

ROBERT THOMSON, M. D.

Dr. ROBERT THOMSON of the class of 1871 of the Albany Medical College died at his residence in Troy, N. Y., on December 24, 1916.

Dr. Thomson was a member of a class which has been well represented by famous men, and well sustained in a long and active practice, the traditions of his college and of his associates. He was born in Glasgow, and came to America when a young man. After graduation for mthe college he began practice in Troy, N. Y., and was fully occupied from the first. He was a most reserved and distant man to those who did not know him, but endeared himself to his classmates who appreciated all of his sturdy, strong characteristics, and was regarded as a bright scholar and a very popular man. His wife survives.

E. JAY FISK.

Military Medicine

MILITARY INSTRUCTION AND THE "ALBANY IDEA."

The admirable work done by the Clinical Club in Albany in military preparedness has been demonstrated by an important pamphlet recently issued. As the scheme is of such far-reaching value, it has been thought wise to reprint it in the ANNALS so that it may receive a larger circulation than the privately distributed pamphlet, and may also have permanent record.

The following named physicians are the members of the Clinical Club who have accomplished this large task: Dr. ARTHUR J. BEDELL, Dr. FREDERICK C. CONWAY, Dr. ERASTUS CORNING, Dr. JOSEPH A. COX, Dr. MALCOLM DOUGLAS, Dr. EUGENE E. HINMAN, Dr. ELLIS KELLERT, Dr. JOSEPH A. LANAHAN, Dr. JOSEPH P. O'BRIEN, Dr. DANIEL V. O'LEARY, Dr. JAMES F. ROONEY, Dr. HARRY RULISON, Dr. JAMES N. VANDER VEER.

FOREWORD.

WAR DEPARTMENT,
Office of the Surgeon General,
WASHINGTON.

The first plan of reporting on the sanitary resources of the country submitted to the Department originated with the Clinical Club of Albany, New York. This Club, upon its own initiative, prepared a report upon the sanitary resources of Albany and the surrounding territory, which showed deep appreciation of the importance of the subject. This report could, with but few, if any modifications, be applied to the country as a whole.

A study of the plan which has been aptly termed the "Albany Idea" is so carefully worked out, the information contained so voluminous, that it would be of infinite value to a division surgeon or chief surgeon of an army operating in that area. The possession by this Department of similar information for the country as a whole would be of inestimable value.

M. C. GORGAS.
Surgeon General, U. S. Army.

PLAN OF MILITARY INSTRUCTION OF THE CLINICAL CLUB OF ALBANY, N. Y.

In November, 1915, a group of physicians in Albany, N. Y., recognizing the need for a more detailed knowledge of medico-military matters on the part of the medical profession, started on the work here outlined. The interest so aroused, and the gradual development of the plan, has encouraged them to present the results of their work in the form of a report. It will be seen that the plan provides a scheme of study whereby individual physicians may equip themselves with a theoretical knowledge of medico-military topics.

Typewritten pamphlets on various topics are handed to each member of the society to read and study at his leisure. A pamphlet on Organization has already been issued. This was a digest of the article on organization in Field Service Regulations 1913. The later "Tables of Organization" of the Army were not issued, as it was felt that a concise statement as given in Field Service Regulations 1913 would better serve the purpose intended.

A pamphlet on the duties of medical officers has also been issued. The basis of this is Army Regulations, Article XLIV, New York State Military Regulations, and the Manual of the Medical Department.

The idea of giving each man a short paper on the various topics to study at his leisure was considered the best method of presenting some phases of the subject; inasmuch as each member of the Clinical Club is a busy practitioner and would scarcely find time to look up and collect a large number of references for himself.

The scheme of instruction also includes lectures by Army and National Guard officers on the various topics mentioned in the outline of subjects.

In addition to this, certain problems, of which five specimens are presented, have been utilized. These problems, as closely as possible, cover certain exigencies that would arise in the time of war. As presented they are local in their form, but general in their nature. With slight changes they could be made to apply to any locality. In allotting the different subdivisions of each problem to the individual men, orders have been issued. This accustoms the men to receiving and interpreting military orders and prepares them for instruction in order writing. Each problem depicts the usual general and special situation. Then follows a detailed plan for the working out of the problem.

By adapting the problems suggested to their various localities, they not only apply in part some of this theoretical knowledge, but will collect as a result of this work information that might be of no inconsiderable value to the War Department. The plan covers the emergencies of peace as well as those of war, for the training received by a group of men, and the information collected, would be applicable to conditions arising as a result of floods, fire, steamboat accidents, etc.

Should the plan be put in operation in a chain of cities designated by the War Department, and the information lodged with the proper authorities at Washington, the military authorities would have ready at hand accurate information concerning any locality where the need for establishing medical bases might arise. They could determine at a glance wherein the resources of any given city were deficient, where excess of required needs existed, and by transferring physicians, nurses and supplies, avoid confusion and suffering.

The plan as outlined can be used by groups of any size. In general the more men at work on the plan, the more rapidly and easily will be the collection of information. It must be borne in mind, however, that

many parts of the plan overlap each other and that real co-operation on the part of the men is essential.

The plan is applicable to cities of any size. In the smaller cities one group can cover the situation adequately. In larger cities the city can be divided into districts and the entire plan applied to each district by separate groups of men acting under the coordination of a central committee.

Individual physicians, such as members of the Medical Reserve Corps, or Medical Clubs already organized, or County Medical Societies, provide the obvious starting points for this work in various localities.

Outline of Subjects for Study.

I. Books and Authorities:
Manual Medical Department; Army Regulations; Hospital Corps Drill Regulations and Service Manual; Field Service Regulations; Straub's *Medical Service in Campaign;* Munson's *Sanitary Tactics; Military Hygiene,* Harvard; *Military Surgery,* La Garde; *Map Reading,* Sherrill.
II. General plan of organization of military forces.
III. Branches of Service.
IV. Organization of Medical Department.
V. Hygiene of Troops: Recruit, Personal Hygiene, Troops on March.
VI. Camp Sanitation.
VII. Orders.
VIII. Map Reading.
IX. Problems.
X. Duties of Medical Officers: Troops in Campaign, Diseases of Troops in Relation to Climate, Food, etc.; Disposal of Wounded, Articles of War.
XI. Arms.

Problem No. 1.*

General Situation.

A portion of the Atlantic fleet has been defeated and Boston has been taken by the enemy. The enemy also succeeded in landing a large force on the New Jersey coast and has routed the small force of regulars and National Guard sent to oppose them and New York City has fallen.

The United States troops are slowly retreating in good order from Boston along the Boston-Albany highways and along the New York-Albany highways toward strongly intrenched positions about Albany. Here a large force has been stationed to check the enemy's advance and prevent his taking the city.

From secret information that has come into the commanding general's possession it is known that Albany is the enemy's immediate objective because of the numerous railroads, electric roads and water routes centering here.

* See "Outline of Subjects," No. IX.

Special Situation.

Numerous spies have been detected within our lines and have been executed. Today, one of the enemy's sympathizers was shot while attempting to contaminate the city's water supply.

FIRST DIVISION NORTHERN ARMY,
Blank date, 7 P. M.

SPECIAL ORDERS
No. —

I. (Grade) Medical Corps, (Grade) Medical Corps and Captain John Y, Corps of Engineers, will investigate the water supply of the city of Albany and report in writing to the Chief Surgeon Division such recommendations as may be necessary to safeguard this water supply from contamination and destruction by any of the enemy's sympathizers that may be within our lines.

II. It is ordered that such report with maps, sketches and other necessary data shall be made not later than forty-eight hours from the receipt of this order.

By command of Major-General X.

X. Y. Z.,
Lieut.-Col., Adjt.-Gen.

(Grade)

Oral communication from the Adjutant-General Division that the civil authorities of Albany will place at their disposal maps, etc.

WATER PROBLEM.

Possible enemy sympathizers who have a familiar knowledge of the water supply should, as a matter of military necessity, be interned immediately on the outbreak of hostilities.

Immediately on the outbreak of hostilities, the civil or military authorities should *without delay* take such measures as may be needed to adequately protect the water supply and watershed from destruction or contamination. This is especially necessary where the water supply is impounded.

In cities the municipal authorities usually have maps showing all water mains, fire plugs (hydrants) cut-off, etc. Similar maps are in possession of insurance companies. These maps should be obtained or copies made, or copies of essential parts made by tracings, etc., and incorporated as part of the report.

Sources of municipal water supply: River, Lake, Artesian wells, Driven wells, Dug wells, Rain water.

Amount of daily supply needed for municipality — on the average should not exceed 20 gallons per person per day and may be diminished to five gallons per person per day.

Methods of preventing wastage when water supply is diminished.— Meters; Inspection of dwellings; Factories; Public buildings; Stores,

etc., for leaky faucets, etc.; Maps showing main cut-offs; newspaper announcements.

How stored:

By pumping plants; daily capacity of each pump; in reservoirs, etc.; amount on hand from all sources.

Possible sources of usual contamination and how remedied in ordinary supply, *e. g.,* by filtration, etc.

Possible places and means of contamination by enemy or enemy sympathizers.

Most vulnerable points for crippling water supply of community, *e. g.,* Pumping station; reservoirs; main conduits, aqueducts, etc.

Length of pipe line to be guarded; area of reservoirs, etc.

Average depth below surface of main lines of pipe supplying community.

Possible methods of fire control in case water supply was destroyed, viz.:

A — By razing buildings in locality or blowing up buildings by explosives;

B — Character of explosives needed and where obtainable;

C — Increase of fire departments for this purpose;

D — Number of men in locality trained in use of explosives that might be utilized.

Emergency water supply. (In most of the older communities in the United States old wells formerly used might be reopened. These will be contaminated and should be examined, etc., and means taken for purification.)

Location of these wells on maps. Data to be obtained from health authorities, city engineers, old residents, proceedings of municipal legislative bodies, etc.

Digging or driving new wells. (Study of soil of locality; of impermeable strata, etc. Data may be obtained from maps made by, or by consultation with, State Geologist or Universities which have studied certain areas in nearby regions.)

Simple methods of purifying emergency water supply. (Filtration not included because it creates false sense of security.) — The best is hypochlorite of lime, the so-called chlorination method. In determining the feasibility of the latter consider the possibility of obtaining materials needed under war conditions, and the average daily amounts of purifying materials needed for whole community. If wells are used, estimate number of persons needed to manage water supply and number of guards necessary to prevent wastage, etc.

Map out method of tapping underground streams (if any) known to exist in locality.

Materials and men needed and source of supplies for tapping or driving new artesian and driven wells.

Methods of distribution of emergency water supplies.

PROBLEM NO. 2.

General Situation.

A portion of the Atlantic fleet has been defeated and Boston has been taken by the enemy. The enemy also succeeded in landing a large force on the New Jersey Coast and has routed the small force of regulars and National Guard sent to oppose them and New York City has fallen.

The United States troops are slowly retreating in good order from Boston along the Boston-Albany highways and along the New York-Albany highways toward strongly intrenched positions about Albany. Here a large force has been stationed to check the enemy's advance and prevent his taking the city.

From secret information that has come into the commanding general's possession it is known that Albany is the enemy's immediately objective because of the numerous railroads, electric roads and water routes centering here.

Special Situation.

Besides a very large number of troops in and near Albany an enormous number of refugees (100,000) from New England, New York City and the contiguous territory have arrived here. These are largely destitute women and children. In addition, owing to the crippled condition of Albany's industries because of the war, a large part of the normal population is in want.

The care of these women and children and especially the management of the milk supply has become a very acute problem. The civil and military authorities have met and discussed it.

FIRST DIVISION NORTHERN ARMY,
SPECIAL ORDER Blank date, 8 P. M.

I. (Grade) Medical Corps, (Grade) Medical Corps and (Grade) Medical Corps will immediately investigate and report in writing at the earliest possible time to the Chief Surgeon Division such recommendations as may be necessary to relieve the distress now existent among the civil population of Albany.

II. They will direct especial attention to the quantity, quality and management of the distribution of the milk.

By command of MAJOR-GENERAL X,
X. Y. Z.,
(Grade) *Lieut.-Col., Adjt.-Gen.*

In order to avoid confusion, this order is followed by an outline covering the milk problem only. It is recognized that the care of a large number of civilians would include many problems other than the supply and distribution of milk, but these questions of housing, food, clothing, etc., will be found below under Problem No. 3.

The information required below can be obtained from the following sources:

Practical Hygiene, Harrington and Richardson; *Preventive Medicine and Hygiene,* Rosenau, M. J.; *The Milk Question,* Rosenau, M. J.; *Milk and Public Health,* Savage, William G.; *State Agricultural Reports; Reports of Milk Inspectors of Municipality.*

Milk.

1. *Sources of Supply:* Daily amount of local supply brought in by horse or motor vehicle; daily amount of distant supply brought in by steam railroads; boat; electric railroads; daily amount passing through in transit to other destinations that might be seized in emergency.
2. *Modes of Transportation:* (Rail—Other Vehicles).
3. *Routes of Transportation:* Steam railroad; boat; electric railroads; motor vehicles; horse-drawn vehicles.
4. *Emergency Supply*—Possible sources of supply at present available but not utilized.
5. *Constant need of City,* (amount in gallons): Based on caloric values. (Consult local and State health officials); infants outside of institutions; children; hospitals for children; hospitals for adults; orphanages; infant homes; homes for aged; hospitals for tuberculosis.
6. *Minimum need of city during emergency* (amounts in gallons): Based on caloric values of needs of infants under 2, children under 10, and average number of invalids.
7. *Total number of containers:* 10 gal. cans; 1 gal. cans; 1 qt. bottles; 1 pt. bottles.
8. *Total pasteurizing capacity:* Flash process; holding process.
9. *Modes of intra-urban distribution:* Motor vehicles; horse vehicles.
10. *Establishment of distributing stations* (distribution of infant population in municipality): City maps; birth records; distribution by doctors; all children under 10 years of age in proper street location on map.
11. *Administration of Distributing Stations:* Amount needed per day per station; number of employees needed; bottling apparatus; cleaning and sterilizing apparatus; pasteurizing aparatus; tickets.
12. *Refrigeration:* Total poundage of ice needed for entire daily supply; total poundage of ice needed at each distributing station per day; approximate poundage of ice needed for preservation at homes.
13. *Milk analysis.*
14. *Accounting*—cost; fixed charges; clerical help.
15. *Total available supply of preserved milk and milk preparations:* Condensed milk; condensed cream; evaporated milk; evaporated cream; malted milk; Mellin's food; Nestle's food; Mammala; Eskay's food.

(*To be continued*)

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(Tri-chlor-tertiary-butyl alcohol)

An Exceptional Hypnotic

Especially indicated in the treatment of insomnia due to pain, as in tabes dorsalis, nervous excitement, acute mania, acute alcoholism, etc.

ADVANTAGES:

1. It induces profound, refreshing slumber.
2. It is a sedative to the cerebral, gastric and vomiting centers.
3. It is relatively non-toxic.
4. It does not depress the heart or respiratory center.
5. It does not disturb the digestive functions.
6. It produces no depressing after-effects.
7. It is not "habit-forming."

◆ ◆ ◆

As a well-known professor of medicine and therapeutics in a leading eastern medical college said some years ago:

"Chloretone is our closest approximation to that theoretical hypnotic toward which we have been led through a study of the working hypothesis of the sleep-phenomena."

CHLORETONE: Ounce vials.
CHLORETONE CAPSULES: 3-grain, bottles of 100 and 500.
CHLORETONE CAPSULES: 5-grain, bottles of 100 and 500.
Dose, 3 to 15 grains.

LITERATURE ON APPLICATION.

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The attention of physicians is called to the advantages which this institution offers in methods of laboratory diagnosis. Many physicians, through lack of time, technical training, or proper laboratory equipment, find it difficult to utilize the many methods of microscopical and chemical examination, so essential to proper diagnosis. To the Alumni of the Albany Medical School, and to physicians generally, the Bender Laboratory offers at a moderate cost, facilities for such examinations. Animal inoculation, chemical, bacteriological and histological examinations will be made as the case requires.

The following directions are appended for the benefit of those who may forward material:

All specimens should be accompanied by a brief note of the clinical condition and a special reference to the character of the examination desired. Name and address of person to whom report is to be sent should be clearly indicated.

1.—Pathological material from either operation or autopsy should be wrapped in moist gauze surrounded by oiled paper or rubber protective. When it is not possible for material to reach the laboratory within twenty-four hours, it should be placed in alcohol (80%) or formalin solution (10%). Small fragments of tissue and the material from uterine curettage should always be so preserved.

2.—Sputum should be sent in clean wide-mouth bottles; the ordinary vaseline bottle answers all purposes. The same bottle is suitable for faeces. Urine should be in clean bottles containing not less than six ounces.

3.—Exudates and other material requiring a bacteriological examination by culture should be placed in containers previously sterilized by heat (not chemical disinfectants).

4.—Outfits for special purposes, as diphtheria cultures, Widal reaction, vaccines, Wassermann reactions, etc., will be sent upon application.

5.—Tissues and fluids for animal inoculation, e. g., hydrophobia, tetanus, tuberculosis, etc., are best sent packed in ice. In cases of suspected hydrophobia it is advisable to send the entire animal without injury to the brain or cord.

6.—Haematological examinations at the patient's home will be made by appointment.

7.—Milk and water for bacteriological examination should be sent in sterile glass containers, packed in ice. Special instructions for the collection of samples may be had upon application.

8.—Members of the staff are at all times available for the purpose of conducting post-mortem examinations.

9.—The fee for complete haematological examination at patient's home is $10.00; for post-mortem examination, according to the nature of the case and the time consumed; for the Wassermann reaction, $10.00; all other examinations, a uniform fee of $5.00. A special contract may be made for weekly or monthly examinations of milk. In the case of patients who cannot pay the full amount, these fees will be reduced.

Reports will be sent by telegraph if requested.

Letters and specimens should be addressed to

THE BENDER HYGIENIC LABORATORY,
LAKE AVENUE, ALBANY, N. Y.

THE BRANDOW PRINTING COMPANY, ALBANY, N. Y.

ALBANY HOSPITAL

New Scotland Avenue

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